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10/750,000	12/30/2003	Jin-Woong Kim	51876P547	9967
8791	7590	05/23/2005	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN			MULL, FRED H	
12400 WILSHIRE BOULEVARD			ART UNIT	
SEVENTH FLOOR			PAPER NUMBER	
LOS ANGELES, CA 90025-1030			3662	

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/750,000

Applicant(s)

KIM, JIN-WOONG

Examiner

Fred H. Mull

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7,9-11 and 13-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9-11 and 13-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments have been fully considered but they are not persuasive.

Applicant's first argument is that the references do not teach that the server transmits relative coordinates to the mobile (p. 7, section I, 2nd ¶, lines 4-7).

While it is true that in the SUMMARY OF THE INVENTION section, Murray only discusses a mobile sending data to a server, and does not discuss the server sending data to the mobile, Murray does disclose the goal of reducing message size from a server to a mobile: "Some existing systems reduce the message size necessary to transmit latitude and longitude values **to a wireless remote (or mobile) unit ...**" (col. 1, lines 50-52, emphasis added). Thus, Murray establishes that reducing message size in the server to mobile direction is a known goal. The key teaching of Murray, that sending position differences reduces message size, can equally apply to communication in either direction.

Applicant's second argument is that the references do not teach transmitting to the mobile only a limited portion of a map around the mobile at a time, but rather a whole map (p. 8).

However, in the first combination, Pechatnikov discloses this feature (Fig. 2F; ¶ 101, 106), where the mobile continually receives map information in the area around the mobile taking into account the direction and speed of the mobile, and discards old map data from the direction the mobile has come from and is no longer interested in. In the

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second combination, Maruyama discloses this feature (Fig. 3(e), 3(f); col. 6, lines 21-38 and 57-65), where the map information changes by moving the black dot as the user moves.

Claim Objections

2. Claims 1, 4, 7, 9, 13, 15, and 17 are objected to because of the following informalities: The phrase "having a GPS" should be replaced by --having a GPS receiver--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-2, 4-7, 9-11, and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pechatnikov in view of Murray and Academic Press Dictionary of Science and Technology.

In regard to claim 1, Pechatnikov discloses:

receiving coordinates of current location of a mobile communication terminal having a GPS receiver (¶ 8, 14, 25; 202, Fig. 2A) and a request for location information (¶ 137), where the location information includes coordinates of geographical features adjacent to the mobile communication terminal from the mobile communication terminal (¶ 137, 112, 158);

generating location information having coordinates of the geographical features adjacent to the Mobile communication terminal (§§ 137, 112, 158); and

transmitting the location information to the mobile communication terminal (§§ 7, 137, 112, 158), wherein the map information transmitted to the mobile communication terminal is gradationally changed in response to a user's request (Fig. 2F; §§ 101, 106) , where the mobile continually receives map information in the area around the mobile taking into account the direction and speed of the mobile, and discards old map data from the direction the mobile has come from and is no longer interested in.

Pechatnikov discloses the need to transmit data over a low-speed wireless link (§§ 7).

Pechatnikov fails to disclose setting up the received coordinates of current location of the mobile communication terminal as an origin and calculating difference values between the coordinate of the mobile communication terminal (the origin) and the coordinate of the geographical feature.

Murray discloses the coordinate of a position includes a difference value between the coordinate of the mobile communication terminal and the coordinate of the geographical feature (col. 2, lines 57-67). Since the coordinates are measured relative to the mobile communication terminal position, Murray is using the mobile communication terminal position as an origin. According to the Academic Press Dictionary of Science and Technology, the definition of origin with regard to Cartography is "In surveying and map construction, the point from which angles and distances are measured." In other words, the origin is merely the reference point from which distance

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and angles and positions are measured. Murray discloses that the positions he sends are measured relative to the position of the mobile communication terminal (col. 2, lines 57-67). Thus, Murray is using the mobile communication terminal as an origin.

Murray further discloses this allows a smaller message size (col. 2, lines 44-49), which reduces the time it takes to receive the message, thus reducing the amount of time needed to display the features, and saving battery power due to lesser time in communication mode. It would have been obvious to include the coordinate difference feature in Murray into the invention of Pechatnikov in order to reduce communication time, which is important in view of Pechatnikov's low-speed wireless link, and to save battery power to the mobile device.

In regard to claim 2, Pechatnikov further discloses the geographical features include roads and buildings (§ 137, 112).

In regard to claim 7, Pechatnikov further discloses generating graphical location information based on the location information (Fig. 4).

In regard to claim 4, Pechatnikov discloses:

receiving coordinates of current location of a mobile communication terminal having a GPS receiver from the mobile communication terminal (§ 8, 14, 25; 202, Fig. 2A);

generating basic location information which includes coordinates of main geographical features adjacent to a mobile communication terminal in response to a

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request for basic location information from the mobile communication terminal (§§ 137, 112, 158);

transmitting the basic location information to the mobile communication terminal (§§ 7, 137, 112, 158);

generating additional location information which includes coordinates of detailed geographical features adjacent to the Mobile communication terminal in response to a request for additional location information from the mobile communication terminal (§§ 219, 151); and

transmitting additional location information and map information to the mobile communication terminal (§§ 219, 151), wherein the map information transmitted of the mobile communication terminal is gradationally changed in response to a user's request (Fig. 2F; §§ 101, 106) , where the mobile continually receives map information in the area around the mobile taking into account the direction and speed of the mobile, and discards old map data from the direction the mobile has come from and is no longer interested in.

Pechatnikov discloses the need to transmit data over a low-speed wireless link (§§ 7).

Pechatnikov fails to disclose setting up the received coordinates of current location of the Mobile communication terminal as an origin and calculating difference values between the coordinate of the Mobile communication terminal (the origin) and the coordinate of the geographical feature.

Murray discloses the coordinate of a position includes a difference value between the coordinate of the mobile communication terminal and the coordinate of the geographical feature (col. 2, lines 57-67). Since the coordinates are measured relative to the Mobile communication terminal position, Murray is using the Mobile communication terminal position as an origin. According to the Academic Press Dictionary of Science and Technology, the definition of origin with regard to Cartography is "In surveying and map construction, the point from which angles and distances are measured." In other words, the origin is merely the reference point from which distance and angles and positions are measured. Murray discloses that the positions he sends are measured relative to the position of the mobile communication terminal (col. 2, lines 57-67). Thus, Murray is using the Mobile communication terminal as an origin.

Murray further discloses this allows a smaller message size (col. 2, lines 44-49), which reduces the time it takes to receive the message, thus reducing the amount of time needed to display the features, and saving battery power due to lesser time in communication mode. It would have been obvious to include the coordinate difference feature in Murray into the invention of Pechatnikov in order to reduce communication time, which is important in view of Pechatnikov's low-speed wireless link, and to save battery power to the mobile device.

In regard to claim 9, Pechatnikov further discloses outputting graphical basic location information on a display unit, and outputting graphical additional location information on the display unit (Fig. 4; ¶ 219, 151).

In regard to claims 5 and 10, Pechatnikov further discloses the main geographical features include location of main buildings, figure of main buildings, location of main roads and figure of main roads (§§ 137, 112).

In regard to claims 6 and 11, Pechatnikov further discloses the detailed geographical features include location of buildings, figure of buildings, location of roads and figure of roads (§§ 137, 112).

In regard to claim 13, Pechatnikov discloses:

a GPS server for receiving the coordinates of current location of a mobile terminal having a GPS receiver (§§ 7; Fig. 2A), generating location information which includes coordinates of geographical features adjacent to the mobile communication terminal through retrieval of map data base, and transmitting the location information and map information to the mobile terminal (§§ 137, 112, 158), wherein the map information transmitted to the mobile terminal is gradationally changed in repose to a user's request (Fig. 2F; §§ 101, 106), where the mobile continually receives map information in the area around the mobile taking into account the direction and speed of the mobile, and discards old map data from the direction the mobile has come from and is no longer interested in; and

at least one mobile communication terminal for transmitting coordinates of its current location, requesting the location information to the GPS server, receiving the location information from the GPS server, generating graphical location information

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based on the location information, and displaying the graphical location information (§ 8, 14, 25; Fig. 4).

Pechatnikov discloses the need to transmit data over a low-speed wireless link (§ 7).

Pechatnikov fails to disclose setting up the received coordinates of current location of the Mobile communication terminal as an origin and calculating difference values between the coordinate of the Mobile communication terminal (the origin) and the coordinate of the geographical feature.

Murray discloses the coordinate of geographical features includes a difference value between the coordinate of the Mobile communication terminal and the coordinate of the geographical feature (col. 2, lines 57-67). Since the coordinates are measured relative to the Mobile communication terminal position, Murray is using the Mobile communication terminal position as an origin. According to the Academic Press Dictionary of Science and Technology, the definition of origin with regard to Cartography is "In surveying and map construction, the point from which angles and distances are measured." In other words, the origin is merely the reference point from which distance and angles and positions are measured. Murray discloses that the positions he sends are measured relative to the position of the Mobile communication terminal (col. 2, lines 57-67). Thus, Murray is using the Mobile communication terminal as an origin.

Murray further discloses this allows a smaller message size (col. 2, lines 44-49), which reduces the time it takes to receive the message, thus reducing the amount of time needed to display the features, and saving battery power due to lesser time in

communication mode. It would have been obvious to include the coordinate difference feature in Murray into the invention of Pechatnikov in order to reduce communication time, which is important in view of Pechatnikov's low-speed wireless link, and to save battery power to the mobile device.

In regard to claim 14, Pechatnikov further discloses the geographical features include roads and buildings (§ 137, 112).

In regard to claim 15, Pechatnikov discloses:

a receiver for receiving a location information request message and coordinates of the current location of a mobile terminal having a GPS receiver from a mobile terminal (antenna tower to let of 204, Fig. 2A);

a map database for storing map information; a transmitter for transmitting map information and information of geographical features adjacent to the mobile terminal (206), where the map information transmitted of the mobile terminal is gradationally chanted in response to a user's request (Fig. 2F; § 101, 106), where the mobile continually receives map information in the area around the mobile taking into account the direction and speed of the mobile, and discards old map data from the direction the mobile has come from and is no longer interested in;

a processor for retrieving the map database based on the coordinates of the current location of the mobile terminal (204; § 90, 94).

Pechatnikov discloses the need to transmit data over a low-speed wireless link (§ 7).

Pechatnikov fails to disclose setting up the received coordinates of current location of the Mobile communication terminal as an origin and calculating difference values between the coordinate of the mobile terminal (the origin) and the coordinate of the geographical feature.

Murray discloses the coordinate of a position includes a difference value between the coordinate of the mobile terminal and the coordinate of the geographical feature (col. 2, lines 57-67). Since the coordinates are measured relative to the mobile terminal position, Murray is using the Mobile communication terminal position as an origin. According to the Academic Press Dictionary of Science and Technology, the definition of origin with regard to Cartography is "In surveying and map construction, the point from which angles and distances are measured." In other words, the origin is merely the reference point from which distance and angles and positions are measured. Murray discloses that the positions he sends are measured relative to the position of the Mobile communication terminal (col. 2, lines 57-67). Thus, Murray is using the mobile terminal as an origin.

Murray further discloses this allows a smaller message size (col. 2, lines 44-49), which reduces the time it takes to receive the message, thus reducing the amount of time needed to display the features, and saving battery power due to lesser time in communication mode. It would have been obvious to include the coordinate difference feature in Murray into the invention of Pechatnikov in order to reduce communication time, which is important in view of Pechatnikov's low-speed wireless link, and to save battery power to the mobile device.

In regard to claim 16, Pechatnikov further discloses the geographical features include roads and buildings (¶ 137, 112).

In regard to claim 17, Pechatnikov discloses:

a GPS receiver for receiving a GPS signal from GPS satellites (860, Fig. 8B);

a GPS processor for calculating coordinates of the current location of a mobile terminal using the GPS signal (860, Fig. 8B);

a transmitter for transmitting a location information request message, map information and coordinates of the current location of the mobile terminal (852), wherein the map information transmitted to the mobile terminal is gradationally changed in response to a user's request (Fig. 2F; ¶ 101, 106), where the mobile continually receives map information in the area around the mobile taking into account the direction and speed of the mobile, and discards old map data from the direction the mobile has come from and is no longer interested in;

a receiver for receiving coordinates of geographical features adjacent to the Mobile communication terminal from the GPS server (852); and

a location information processor for generating graphical location information based on the coordinates of geographical features and displaying the graphical location information (850, 854).

Pechatnikov discloses the need to transmit data over a low-speed wireless link (¶ 7).

Pechatnikov fails to disclose setting up the received coordinates of current location of the Mobile communication terminal as an origin and calculating difference values between the coordinate of the Mobile communication terminal (the origin) and the coordinate of the geographical feature.

Murray discloses the coordinate of geographical features includes a difference value between the coordinate of the Mobile communication terminal and the coordinate of the geographical feature (col. 2, lines 57-67). Since the coordinates are measured relative to the Mobile communication terminal position, Murray is using the Mobile communication terminal position as an origin. According to the Academic Press Dictionary of Science and Technology, the definition of origin with regard to Cartography is "In surveying and map construction, the point from which angles and distances are measured." In other words, the origin is merely the reference point from which distance and angles and positions are measured. Murray discloses that the positions he sends are measured relative to the position of the Mobile communication terminal (col. 2, lines 57-67). Thus, Murray is using the Mobile communication terminal as an origin.

Murray further discloses this allows a smaller message size (col. 2, lines 44-49), which reduces the time it takes to receive the message, thus reducing the amount of time needed to display the features, and saving battery power due to lesser time in communication mode. It would have been obvious to include the coordinate difference feature in Murray into the invention of Pechatnikov in order to reduce communication time, which is important in view of Pechatnikov's low-speed wireless link, and to save battery power to the mobile device.

In regard to claim 18, Pechatnikov further discloses the geographical features include roads and buildings (¶ 137, 112).

4. Claims 1-2, 4-7, 9-11, and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama in view of Murray and Academic Press Dictionary of Science and Technology.

In regard to claim 1, Maruyama discloses:

receiving coordinates of current location of a mobile communication terminal having a GPS receiver (col. 5, lines 51-53) and a request for location information, where the location information includes coordinates of geographical features adjacent to the Mobile communication terminal from the mobile communication terminal (col. 5, lines 31-62);

generating location information having coordinates of the geographical features adjacent to the Mobile communication terminal (Fig. 4, 8; col. 9, lines 24-27); and

transmitting the location information to the mobile communication terminal (Fig. 4, 8, 9; col. 9, lines 24-27), wherein the map information transmitted to the mobile communication terminal is gradationally changed in response to a user's request (Fig. 3(e), 3(f); col. 6, lines 21-38 and 57-65), where the map information changes by moving the black dot as the user moves.

Maruyama fails to disclose the coordinate of the geographical feature includes a difference value between the coordinate of the mobile communication terminal and the coordinate of the geographical feature.

Murray discloses the coordinate of geographical features includes a difference value between the coordinate of the Mobile communication terminal and the coordinate of the geographical feature (col. 2, lines 57-67). Since the coordinates are measured relative to the mobile communication terminal position, Murray is using the mobile communication terminal position as an origin. According to the Academic Press Dictionary of Science and Technology, the definition of origin with regard to Cartography is "In surveying and map construction, the point from which angles and distances are measured." In other words, the origin is merely the reference point from which distance and angles and positions are measured. Murray discloses that the positions he sends are measured relative to the position of the Mobile communication terminal (col. 2, lines 57-67). Thus, Murray is using the Mobile communication terminal as an origin.

Murray further discloses this allows a smaller message size (col. 2, lines 44-49), which reduces the time it takes to receive the message, thus reducing the amount of time needed to display the features, and saving battery power due to lesser time in communication mode.

It would have been obvious to include the coordinate difference feature in Murray into the invention of Maruyama in order to reduce communication time, increase the display update rate, and to save battery power to the mobile device.

In regard to claim 2, Maruyama further discloses the geographical features include roads and buildings (Fig. 4, 8).

In regard to claim 7, Maruyama further discloses generating graphical location information based on the location information (Fig. 4, 8).

In regard to claim 4, Maruyama discloses:

receiving coordinates of current location of a mobile communication terminal having a GPS receiver from the mobile communication terminal (col. 5, lines 51-53);

generating basic location information which includes coordinates of main geographical features adjacent to a mobile communication terminal in response to a request for basic location information from the mobile communication terminal (Fig. 4, 8; col. 5, lines 31-62; col. 9, lines 24-27);

transmitting the basic location information to the mobile communication terminal (Fig. 4, 8, 9; col. 5, lines 31-62; col. 9, lines 24-27);

generating additional location information which includes coordinates of detailed geographical features adjacent to the mobile communication terminal in response to a request for additional location information from the Mobile communication terminal (col. 5, lines 62-64); and

transmitting additional location information and map information to the mobile communication terminal (col. 5, lines 62-64), wherein the map information transmitted to the mobile communication terminal is gradationally changed in response to a user's request (Fig. 3(e), 3(f); col. 6, lines 21-38 and 57-65), where the map information changes by moving the black dot as the user moves.

Maruyama fails to disclose the coordinate of the geographical feature includes a difference value between the coordinate of the mobile communication terminal and the coordinate of the geographical feature.

Murray discloses the coordinate of geographical features includes a difference value between the coordinate of the Mobile communication terminal and the coordinate of the geographical feature (col. 2, lines 57-67). Since the coordinates are measured relative to the Mobile communication terminal position, Murray is using the Mobile communication terminal position as an origin. According to the Academic Press Dictionary of Science and Technology, the definition of origin with regard to Cartography is "In surveying and map construction, the point from which angles and distances are measured." In other words, the origin is merely the reference point from which distance and angles and positions are measured. Murray discloses that the positions he sends are measured relative to the position of the Mobile communication terminal (col. 2, lines 57-67). Thus, Murray is using the Mobile communication terminal as an origin.

Murray further discloses this allows a smaller message size (col. 2, lines 44-49), which reduces the time it takes to receiver the message, thus reducing the amount of time needed to display the features, and saving battery power due to lesser time in communication mode.

It would have been obvious to include the coordinate difference feature in Murray into the invention of Maruyama in order to reduce communication time, increase the display update rate, and to save battery power to the mobile device.

In regard to claim 9, Maruyama further discloses outputting graphical basic location information on a display unit, and outputting graphical additional location information on the display unit (Fig. 4, 8).

In regard to claims 5 and 10, Maruyama further discloses the main geographical features include location of main buildings, figure of main buildings, location of main roads and figure of main roads (Fig. 4, 8).

In regard to claims 6 and 11, Maruyama further discloses the detailed geographical features include location of buildings, figure of buildings, location of roads and figure of roads (Fig. 4, 8).

In regard to claim 13, Maruyama discloses:

a GPS server for receiving the coordinates of current location of a GPS mobile terminal having a GPS receiver (67, Fig. 9), generating location information which includes coordinates of geographical features adjacent to the mobile terminal through retrieval of map data base (Fig. 4, 8; col. 9, lines 24-27; 67c, Fig. 9), and transmitting the location information and map information to the mobile terminal (62-61), wherein the map information transmitted to the mobile terminal is gradationally changed in response to a user's request (Fig. 3(e), 3(f); col. 6, lines 21-38 and 57-65), where the map information changes by moving the black dot as the user moves; and

at least one mobile communication terminal for transmitting coordinates of its current location, requesting the location information to the GPS server, receiving the location information from the GPS server, generating graphical location information based on the location information, and displaying the graphical location information (61).

Maruyama fails to disclose the coordinate of the geographical feature includes a difference value between the coordinate of the mobile terminal and the coordinate of the geographical feature.

Murray discloses the coordinate of geographical features includes a difference value between the coordinate of the mobile terminal and the coordinate of the geographical feature (col. 2, lines 57-67). Since the coordinates are measured relative to the Mobile communication terminal position, Murray is using the Mobile communication terminal position as an origin. According to the Academic Press Dictionary of Science and Technology, the definition of origin with regard to Cartography is "In surveying and map construction, the point from which angles and distances are measured." In other words, the origin is merely the reference point from which distance and angles and positions are measured. Murray discloses that the positions he sends are measured relative to the position of the Mobile communication terminal (col. 2, lines 57-67). Thus, Murray is using the Mobile communication terminal as an origin.

Murray further discloses this allows a smaller message size (col. 2, lines 44-49), which reduces the time it takes to receiver the message, thus reducing the amount of time needed to display the features, and saving battery power due to lesser time in communication mode.

It would have been obvious to include the coordinate difference feature in Murray into the invention of Maruyama in order to reduce communication time, increase the display update rate, and to save battery power to the mobile device.

In regard to claim 14, Maruyama further discloses the geographical features include roads and buildings (Fig. 4, 8).

In regard to claim 15, Maruyama discloses:

a receiver for receiving a location information request message and coordinates of the current location of a mobile terminal having a GPS receiver from a mobile terminal (62);

a map database for storing map information (67c);

a transmitter for transmitting map information and location information of geographical features adjacent to the mobile terminal (62), wherein the map information transmitted to the mobile terminal is gradationally changed in response to a user's request (Fig. 3(e), 3(f); col. 6, lines 21-38 and 57-65), where the map information changes by moving the black dot as the user moves; and

a processor for retrieving the map database based on the coordinates of the current location of the Mobile communication terminal (67a).

Maruyama fails to disclose the coordinate of the geographical feature includes a difference value between the coordinate of the mobile communication terminal and the coordinate of the geographical feature.

Murray discloses the coordinate of geographical features includes a difference value between the coordinate of the mobile terminal and the coordinate of the geographical feature (col. 2, lines 57-67). Since the coordinates are measured relative to the mobile communication terminal position, Murray is using the mobile

communication terminal position as an origin. According to the Academic Press Dictionary of Science and Technology, the definition of origin with regard to Cartography is "In surveying and map construction, the point from which angles and distances are measured." In other words, the origin is merely the reference point from which distance and angles and positions are measured. Murray discloses that the positions he sends are measured relative to the position of the mobile terminal (col. 2, lines 57-67). Thus, Murray is using the mobile terminal as an origin.

Murray further discloses this allows a smaller message size (col. 2, lines 44-49), which reduces the time it takes to receive the message, thus reducing the amount of time needed to display the features, and saving battery power due to lesser time in communication mode.

It would have been obvious to include the coordinate difference feature in Murray into the invention of Maruyama in order to reduce communication time, increase the display update rate, and to save battery power to the mobile device.

In regard to claim 16, Maruyama further discloses the geographical features include roads and buildings (Fig. 4, 8).

In regard to claim 17, Maruyama discloses:

a GPS receiver for receiving a GPS signal from GPS satellites (77, Fig. 10; col. 2, lines 31-33);

a GPS processor for calculating coordinates of the current location of the mobile terminal using the GPS signal (77);

a transmitter for transmitting a location information request message, map information and coordinates of the current location of the mobile terminal (76), wherein the map information transmitted to the mobile terminal is gradationally changed in response to a user's request (Fig. 3(e), 3(f); col. 6, lines 21-38 and 57-65), where the map information changes by moving the black dot as the user moves;

a receiver for receiving coordinates of geographical features adjacent to the Mobile communication terminal from the GPS server (76); and

a location information processor for generating graphical location information based on the coordinates of geographical features and displaying the graphical location information (71, 72).

Maruyama fails to disclose the coordinate of the geographical feature includes a difference value between the coordinate of the mobile terminal and the coordinate of the geographical feature.

Murray discloses the coordinate of geographical features includes a difference value between the coordinate of the mobile terminal and the coordinate of the geographical feature (col. 2, lines 57-67). Since the coordinates are measured relative to the Mobile communication terminal position, Murray is using the Mobile communication terminal position as an origin. According to the Academic Press Dictionary of Science and Technology, the definition of origin with regard to Cartography is "In surveying and map construction, the point from which angles and distances are measured." In other words, the origin is merely the reference point from which distance and angles and positions are measured. Murray discloses that the positions he sends

are measured relative to the position of the Mobile communication terminal (col. 2, lines 57-67). Thus, Murray is using the Mobile communication terminal as an origin.

Murray further discloses this allows a smaller message size (col. 2, lines 44-49), which reduces the time it takes to receiver the message, thus reducing the amount of time needed to display the features, and saving battery power due to lesser time in communication mode.

It would have been obvious to include the coordinate difference feature in Murray into the invention of Maruyama in order to reduce communication time, increase the display update rate, and to save battery power to the mobile device.

In regard to claim 18, Maruyama further discloses the geographical features include roads and buildings (Fig. 4, 8).

5. The examiner also finds the following reference(s) relevant:

Suetsugu (col. 8 and 21-22) and Lee (col. 11-12), which also disclose the user of coordinate differences to provide the coordinates of a feature.

Applicant is encouraged to consider these documents in formulating their response (if one is required) to this action, in order to expedite prosecution of this application.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 571-272-6975. The examiner can normally be reached on M-F 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

fhm

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